WHAT IS CLAIMED IS:

1. A circuit for multi-bit processing of a gray scale image in a printer, comprising:

a divider for converting the gray component value of each pixel in a multi-bit image into a resolution of a printer to output a first value;

a remainder calculator for converting the gray component value of each pixel in a multi-bit image into the resolution of the printer, to output a second value;

a half-tone table for storing half tone values corresponding to thresholds for pixels;

a comparator for comparing the remainder with a corresponding threshold half tone value received from the half-tone table and outputting a binary bit according to the comparison result;

a position controller for controlling the half-tone table to repeatedly output the threshold half tone value of each pixel;

an adder for adding the quotient received from the divider to the gray component of the binary processed output of the comparator, pixel by pixel and outputting a multi-bit dithered image; and

a pulse width modulator for modulating the multi-bit dithered image received from the adder to different pulse widths according to

the gray components of the pixels of the multi-bit dithered image and controlling the modulated image to be printed in dots of different sizes.

2. The circuit according to claim 1, wherein said divider outputs said first value which is a quotient obtained by dividing said gray component value G by a divider coefficient D, said divider coefficient being obtained by dividing a number of multi-bit level M of the gray component value G by the resolution of the printer.

3. The circuit according to claim 1, wherein said remainder calculator outputs said second value which is a remainder obtained by dividing said gray component value G by a divider coefficient D, said divider coefficient being obtained by dividing a number of multi-bit level M of the gray component value G by the resolution of the printer N.

4. A method for multi-bit processing of a gray scale image in a printer, comprising:

multi-bit dithering each pixel of input image expressed as a gray component:

causing said multi-bit dithered image to be printed in a dot of a respectively different size according to a gray component value of each pixel.

5. A method according to claim 4, wherein the multi-bit dithering step comprises:

outputting a second value obtained by converting a gray component value of each pixel in said input image into the resolution of the printer, and comparing the second value with a threshold half tone value corresponding to each pixel of the input image, and outputting a binary processed value according to the compared result,

adding a first value obtained by converting a gray component value of each pixel in said input image into the resolution of the printer to said binary processed value, and multi-bit dithering the added result.

6. The method according to claim 5, wherein said first value is a quotient obtained by dividing said gray component value G by a divider coefficient D, said divider coefficient being obtained by dividing a number of multi-bit level M of the gray component value G by the resolution of the printer.

7. The method according to claim 5, wherein said second value is a remainder obtained by dividing said gray component value G by a divider coefficient D, said divider coefficient being obtained by dividing a number of multi-bit level M of the gray component value G by the resolution of the printer.

8. A method according to claim 4, wherein the step of causing said multi-bit dithered image to be printed comprises:

modulating said multi-bit dithered image to a respectively different pulse width according to the gray component value of its pixel, and

causing the modulated image to be printed in dots of a respectively different size.

9. A method for multi-bit processing of a gray scale image in a printer, comprising the steps of:

converting each pixel in an input image expressed as a gray level applied to the printer into the resolution of the printer,

comparing the remainder among gray component values of each pixel in said input image converted into the resolution of the printer with a threshold half tone value corresponding to each pixel of said input image, and outputting a binary processed value according to the compared result;

adding the quotient among the gray component values of each pixel in said input image converted into the resolution of the printer to the binary processed value, and multi-bit dithering the added result; and

modulating the multi-bit dithered image to a respectively different pulse width according to the gray components of the pixels of

the multi-bit dithered image and causing the modulated image to be printed in dots of a respectively different size.